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Title : The Social Structure of Bottlenose Dolphins, Tursiops truncatus, in the Bahamas

Category : Behavior

Student : Not Applicable

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Abstract : The basic social structure characteristics of coastal ecotype bottlenose dolphins, Tursiops truncatus, is largely uncharacterized as they inhabit regions far from shore. This study reports on long-term site fidelity, re-sighting and discovery rates, group size and coefficients of association for a community of bottlenose dolphins occurring >27 km from West End, Grand Bahama Island on Little Bahama Bank. Observations were conducted from May - September, 1993-2002. The half weight index was used to determine coefficients of association (COA) between dolphins for each year (1993-2002). COAs were also calculated from pooled data over the 10-year period (using dolphins sighted at least 5 or more times in the 10 year period). Long-term site fidelity of up to 17 years was observed. Dolphins were re-sighted varyingly, indicating both residents and non-residents occur in the area. Photographic matches show that some dolphins (males and females) travel over 333km periodically between communities. Group size was determined to be small between 3-5 animals, and significantly larger with calves present. Traveling groups were significantly smaller than feeding or socializing groups. Mothers and calves had the strongest associations. Male-male COA values were low (x= .34), however some individuals formed strong associations (second only to mothers and calves), indicating some males form alliances that can last for at least 7 years. Female-female COA values were also low (x= .35), and were affected by the reproductive status of the females. Mixed-gender COA values were significantly lower (x= .31) than either same gender associations. Pooled data revealed overall lower COA values: male-male x=.12, female-female x=.12 and mixed-gender x=.10, however, the same trends were evident, with mixed-gender associations significantly lower then either same gender associations. However, long-term associations revealed when COAs are done yearly were not seen when the data were pooled over years.